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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,031	03/01/2002	Yang Wang	ASH01003	8822
25537 7590 12/20/2006 VERIZON PATENT MANAGEMENT GROUP 1515 N. COURTHOUSE ROAD SUITE 500 ARLINGTON, VA 22201-2909			EXAMINER BOAKYE, ALEXANDER O	
			ART UNIT 2616	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS		MAIL DATE 12/20/2006	DELIVERY MODE PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/085,031

Applicant(s)

WANG, YANG

Examiner

ALEXANDER BOAKYE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-24 and 26-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-24 and 27-32 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/084,917. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications recite a router system comprising: a plurality of virtual routers one resource shared by the plurality of virtual routers with the only difference between claim 1 of the instant application and claim 1 of the copending Application being that claim 1 of the instant Application recite a resource allocator

configured to control access to the at least one resource while the copending Application does not anticipate such limitation. Therefore, it would have been obvious to one of ordinary skill in the art to implement the invention of the instant application using resource allocator in order to be able control bandwidth, thus enhancing efficiency. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Shinomiya (US 2003/0037165).

Regarding claim 27, Shinomiya teaches a router system (Fig.1) comprising: a plurality of virtual routers configured to share at least one resource, of the plurality of virtual routers Page 2, column 2, Paragraph [0043] being associated with a router profile that defines a security level and resource sharing priority for the virtual router, Page 2,

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column 2, Paragraph [0045] ; a resource-shared information base configured to maintain at least one resource (lines 1-7 of the abstract); and a resource allocator (334, Fig.5) configured to receive a request for access to the at least one resource and grant access to the at least one resource to one of the plurality of virtual routers based on the security level and resource sharing priority associated with the one virtual , Page 5, column 2, Paragraph [0096] – Paragraph [0097].

Regarding claim 28, Shinomiya teaches that the resource-shared information base is further configured to: store a plurality of attributes for each of the plurality of virtual routers Page 6, column 2, Paragraph [0126] – [0127].

Regarding claim 29, Shinomiya teaches that the plurality of attributes include at least two of : a virtual router identifier (see Fig. 8B ), a bandwidth parameter for each interface with which a respective virtual router is associated (see Flow rate of Fig.10F).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfieri et al. (US Patent # 7,039,720) in view of Leung et al. (column 6,985,479).

Regarding claims 1, 8, 30, Alfieri teaches a router system comprising: a plurality of virtual routers, at least one virtual router of the plurality of virtual routers is configured to operate as a backbone router (column 3, lines 30-37) ; at least one resource shared by the plurality of virtual routers (column 3, lines 41-45 ; column 5, lines 35-36); and a resource allocator configured to control access to the at least one resource by the plurality of virtual routers (column 6, lines 8-25). Alfieri differs from the claimed invention in that Alfieri does not disclose a regional router. However, Leung from the same field of endeavor teaches a regional router (54, Fig. 1A). One of ordinary skill in the art would have been motivated to incorporate regional router into the communication network in order to be able to achieve effective utilization of bandwidths. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication network of Alfieri by incorporating regional router such as the one taught By Leung with the motivation being that it provides capability for the system to effective utilization of bandwidths.

Regarding claim 4, Alfieri teaches that the router system is a single high-capacity router (dynamic load sharing system using a virtual router as evidenced by Alfieri is a high-capacity router).

Regarding claim 5, Alfieri teaches that each of the plurality of virtual routers is associated with a router profile that is configured to store one or more virtual router (column 3, lines 30-37).

Regarding claim 6, Alfiera teaches that more virtual routers attributes includes at least one of an identifier (see Fig. 2).

Regarding claim 7, Alfiera teaches that more virtual router attributes includes resource sharing priority information for each of the at least one resource (column 3, lines 41-45; column 5, lines 35-36).

Regarding claim 9, Alfiera teaches that at least one resource includes a routing process (column 6, lines 8-13).

Regarding claim 10 and 19, Alfiera teaches that the at least one resource includes one port bandwidth (see Fig 2).

Regarding claim 11, Alfiera teaches that at least one resource includes a common memory (column 5, lines 28-36).

Regarding claim 12, Alfiera teaches a resource-shared information base configured to maintain the at least one resource (column 5, lines 33-36).

Regarding claim 13, Alfiera teaches that the resource-shared information base is further configured to store a plurality of attributes for each of the plurality of virtual routers (column 5, lines 28-36).

Regarding claims 14 and 17, Alfiera teaches that the plurality of attributes include at least two of : a virtual router identifier (virtual router identifier is inherent in the VPRN of Fig. 1), a bandwidth parameter for each interface with which a respective virtual router is associated (see Fig. 1).

Regarding claim 15, Alfieri teaches a method configuring a router system, comprising: configuring a plurality of virtual routers, at least one virtual router of the

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plurality of virtual routers being configured to operate as a backbone router (column 3, lines 30-37) ; defining at least one resource to be shared by the plurality of virtual routers (see Fig. 1); and creating a router profile for each of the plurality of virtual routers (column 3, lines 49-53). Alfieri differs from the claimed invention in that Alfieri does not disclose a regional router. However, Leung from the same field of endeavor teaches a regional router (54, Fig. 1A). One of ordinary skill in the art would have been motivated to incorporate regional router into the communication network in order to be able to achieve effective utilization of bandwidths. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication network of Alfieri by incorporating regional router such as the one taught By Leung with the motivation being that it provides capability for the system to effective utilization of bandwidths.

Regarding claim 16, Alfiera teaches that the configuring includes: setting a plurality of attributes for each of the plurality of virtual routers (column 3, lines 13-29).

Regarding claim 18, Alfiera teaches that at least one resource includes one a

Regarding claim 20, Alfiera teaches that at least one resource includes a common memory (column 5, lines 28-36 ).

Regarding claim 21, Alfiera teaches that the router profile includes at least one of a user identifier (see Fig.1).

Regarding claim 22, Alfiera teaches that the router profile includes resource sharing priority information for each of the at least one resource (column 5, lines 29-38).



Regarding claim 31, Alfiera teaches that at least one resource that is shared by the first virtual router and the second virtual router (see Fig. 1).

4. Claims 23-24, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinomiya (US 2003/0037165) in view of Clark et al. (US Patent # 6,442,588).

Regarding claims 23 and 26, Shinomiya teaches a router system (Fig. 1), a method for controlling allocation of a group of shared resources by a plurality of virtual routers (lines 1-7 of the abstract), the method comprising: receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers Page 2, column 2, Paragraph [0043], the request including priority information (The Allocation Confirmation Packet of Fig. 10B corresponds to the claimed priority information). Shinomiya differs from the claimed invention in that Shinomiya does not teach determining whether the request is authentic based on the security information as well as granting the request when the request is authentic. However, Clark from the same field of endeavor teaches determining whether the request is authentic based on the security information (column 6, lines 20-40); and granting the request when the request is authentic (column 6, lines 37-40). One of ordinary skill in the art would have been motivated to incorporate determining whether the request is authentic based on the security information and granting the request when the request is authentic into the communication network of Shinomiya in order to be able to filter out unauthorized access by a user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate determining whether the request is

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authentic based on the security information and granting the request when the request is authentic such as the one taught by Clark into the communication network of Shinomiya with the motivation being that it provides capability for the system to prevent unauthorized access by a user to an on line service provider network.

Regarding claim 24, Shinomiya teaches that the router system includes a resource-shared information base that is configured to store resource allocation information for each of the plurality of virtual routers (lines 1-7 of the abstract). What Shinomiya fails to disclose is updating the resource-shared information based on the granting. However, Clark teaches updating the resource-shared information base on the granting (column 6, lines 54-55). One of ordinary skill in the art would have been motivated to incorporate updating the resource-shared information based on the granting into the communication network in order to be able to confirm that the subscriber has been authenticated. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate updating the resource-shared information based on the granting such as the one taught by Clark into the communication network of Shinomiya with motivation being that it provides capability for the system to confirm authentication.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alfiera et al. (US Patent # 7,039,720) in view of Shinomiya (US 2003/0037165).

Regarding claim 32, Alfiera teaches resource allocator configured to control access to the at least one resource by the first virtual router and the second virtual

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router(column 6, lines 8-25). However, Shinomiya discloses security information and priority information Page2, column 2, Paragraph [0045]. One of ordinary skill in the art would have been motivated to incorporate security information and priority information into communication network in order to be able to confirm packet authentication.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate resource allocator, security information and priority information such as the one taught by Shinomiya into communication network of Alfiera with motivation being that it provides unauthorized access by a user to an on line service provider network.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 4-24, 26-32 have been considered but are moot in view of the new ground(s) of rejection.

(A) In claim 27-29, at page 3, the Applicant argued that Shinomiya does not disclose or suggest a plurality of virtual routers configured to share at least one resource, where each of the plurality of virtual routers is associated with a router profile that defines a security level and resource sharing priority for the virtual router.

B) In response, the examiner maintains that Shinomiya discloses a plurality of virtual routers Page 2, column 2, Paragraph [0043 ; routers A and B are inherent in the

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virtual router 3 of Fig. 1] configured to share at least one resource, where each of the plurality of virtual routers Page 2 Page 2, column 2, Paragraph [0043] associated with a router profile that defines a security level and resource sharing priority for the virtual router (lines 1-14 of the abstract ; the claimed security level and priority sharing are inherent in Authentication data of Fig. 10A; Authentication is a security level indicator).

C) In claims 23 and 24 at page 6, the Applicant argued that, Shinomiya does not disclose or suggest a plurality of virtual routers and does not also disclose or suggest receiving a request for allocation of the shared resources from ay least one of the plurality of virtual routers, where the request includes security information and priority information.

D) In response, the examiner maintains that Shinomiya discloses or suggest a plurality of virtual routers (routers A and B virtual routers inherent in virtual router 3 of Fig. 1) and also disclose or suggest receiving a request for allocation of the shared resources from ay least one of the plurality of virtual routers (lines 1-8 of the abstract), where the request include priority information (the claimed priority information is contained the Allocation Packet 31 of Fig. 10A). Clark from the same field of endeavor discloses the claimed security information (column 6, lines 20-40), hence the combination of Shinomiya and Clark is proper.

### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (571) 273-3183. The examiner can normally be reached on M-F from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (571) 272-3179. The Fax number is (571) 273-8300. Any inquiry of general nature or relating to the status of this application or proceeding should be directed to Electronic Business Center numbers 866-217-9197 and 703-305-3028.

Alexander Boakye

Patent Examiner  
**AB**  
12/11/06

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
12/14/06